What is claimed as the invention is:

1. A method for correlating two signals, said method comprising the steps of:

digitizing the signals if they are not already in digital form;

applying the signals to an exclusive-NOR gate;

counting the number of logic ones from the exclusive-NOR gate in a first counter;

incrementing a second counter when the count is above a first threshold;

decrementing the second counter when the count is below a second threshold; and

periodically resetting the first counter.

2. The method as set forth in claim 1 and further comprising the step of:

producing a signal indicative of correlation when the count in the second counter exceeds a third threshold.

3. A method for detecting a shadow in a digital signal, said method comprising the steps of:

delaying the digital signal to produce a delayed signal;

applying the digital signal and the delayed signal to an exclusive-NOR gate;

counting the number of logic ones from the exclusive-NOR gate in a first counter;

incrementing a second counter when the count is above a first threshold;

decrementing the second counter when the count is below a second threshold; and

periodically resetting the first counter.

4. The method as set forth in claim 3, wherein said delaying step is preceded by the step of:

digitizing an audio signal to produce the digital signal.

5. The method as set forth in claim 4 wherein said digitizing step is preceded by the step of:

filtering the audio signal in a band pass filter.

6. In a telephone, an improved correlator for detecting a shadow signal on the line input of said telephone, said correlator comprising :

a delay line having an input coupled to said line input and at least one output;

an exclusive-NOR circuit having a first input coupled to the input of said delay line, a second input coupled to an output of said delay line, and an output;

a first counter coupled to the output of said exclusive–NOR circuit;

an up-down counter;

a first comparator for incrementing said up-down counter when the count in said first counter is above a first threshold;

a second comparator for decrementing said up-down counter when the count in said first counter is below a second threshold;

a third comparator for producing an indication of correlation when the count in said up-down counter exceeds a third threshold.

7. The telephone as set forth in claim 6 and further comprising:

a band pass filter having an output coupled to the input of said delay line.

8. Apparatus for detecting the presence of a shadow in an audio signal, said apparatus comprising:

a band pass filter;

a delay line having an input coupled to said band pass filter and at least one output, wherein the maximum delay of said delay line is less than fifty milliseconds; and

a correlator including

a logic circuit having a first input coupled to the input of said delay line, a second input coupled to an output of said delay line, and an output;

an up-down counter;

a first comparator for incrementing said up-down counter when the output from said logic circuit is above a first threshold;

a second comparator for decrementing said up-down counter when the output from said logic circuit is below a second threshold.

9. The apparatus as set forth in claim 8 and further including:

a third comparator coupled to said up-down counter for producing an indication of correlation when the count in said up-down counter exceeds a third threshold.